DOCUMENT RESUME

ED 189 776 EC 124 400

AUTHOR	Haralick, Joy Gold; Peterson, Nancy L.
TITLE	Influence of Social and Physical Setting on Interactions Among Handicapped and Nonhandicapped Children in an Ability Integrated Preschool.
INSTITUTION	Kansas Center for Research in Mental Retardation and Human Development, Parsons.
SPONS AGENCY	National Inst. of Child Health and Human Development (NIH), Bethesda, Md.
PUB DATE	[79]
GRANT	HD07066
NOTE	42p.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Disabilities; Exceptional Child Research; *Interaction Process Analysis; *Mainstreaming; *Peer Relationship; Play; Preschool Education

ABSTRACT

An intensive, naturalistic, observational study was conducted of a preschool class which integrated eight handicapped and five nonhandicapped children. An attempt was made to identify social and physical settings which maximized interaction among members of the two groups. Observations (N=2,306) of the social and play behaviors were recorded over a period of 4 1/2 weeks. Results suggested that interaction among members of the two groups freely occurred. Interaction was enhanced or diminished by variations in the social composition of the play group and by differences in play equipment. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED189776

JUN 0 2 1980

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

INFLUENCE OF SOCIAL AND PHYSICAL SETTING ON INTERACTIONS AMONG HANDICAPPED AND NONHANDICAPPED CHILDREN IN AN ABILITY INTEGRATED PRESCHOOL

Joy Gold Haralick
Department of Sociology
Developmental Learning Program
University of Alabama
in Huntsville

Nancy L. Peterson
Department of Special Education
University of Kansas

*This research was partially supported by DHEW Research Service Award HD07066 from the National Institute of Child Health and Human Development to the Kansas Center for Mental Retardation and Human Development. Nancy Gardner and Matt Frazier gave valuable help in developing and testing the code and observation procedures used in this paper.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Joy Gold Haralick

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC 124400

Abstract

An intensive, naturalistic, observational study was conducted of a preschool class which integrated handicapped and nonhandicapped children. An attempt was made to identify social and physical settings which maximized interaction among members of the two groups. Two thousand, three hundred and six observations were recorded over a period of four and a half weeks. These observations were of the social and play behavior of the classroom's five normal models interacting during free play with each other, their eight handicapped peers or playing alone. Results suggest that interaction among members of the two groups freely occurred. Interaction was enhanced or diminished by variations in the social composition of the play group and by differences in play equipment.

INFLUENCE OF SOCIAL AND PHYSICAL SETTING ON INTERACTIONS AMONG HANDICAPPED AND NONHANDICAPPED CHILDREN IN AN ABILITY INTEGRATED PRESCHOOL

While there has been some research interest exhibited by sociologists in the structuring of social relationships between handicapped and nonhandicapped people (cf. Mercer, 1973; Goffman, 1964; Farber, 1968), there has been almost no sociological research on handicapped children in educational settings, particularly in settings in which they may be expected to have some contact with nonhandicapped children. Further, the younger the children, the less likely it is that they have been the subjects of sociological research.

In recent years, there has been an increasing emphasis on integrating handicapped children with nonhandicapped children in educational settings. Public Law 94-142 mandates the availability of a public education for all handicapped children. This education is to be carried out in the least restrictive environment possible, preferably the regular classroom of the neighborhood school. The integration of handicapped and nonhandicapped children is philosophically an extension of the educational desegregation laws which began in 1954. The rationale behind the desegregation of the handicapped, like the rationale behind racial desegregation, assumes that the segregated children (in this case, the handicapped) are subject to adverse labelling; lowered expectations with resultant inferiority of training; stigmatization; lowered self-esteem; social isolation; and lack of exposure to appropriate role models who can help them "normalize"

their behavior to fit in with cultural expectations. All of these presumed effects of segregation are hypothesized to result in a lower quality of life for the segregated children, both in the present and when they reach adulthood. On the preschool level, integration of the handicapped and nonhandicapped has been combined with infant and early childhood intervention and education, and has produced "mainstreamed" and "integrated" preschools. The term "mainstreamed" is used to indicate classrooms in which the majority of the children are non-handicapped and handicapped children are introduced into the class in relatively small proportions. The term "integrated" refers to classes in which handicapped children compose the majority and relatively small proportions of nonhandicapped children are enrolled as normal models.

According to Hartup (1978) and others, children must have at least a minimum level of peer interaction, if there is to be some incentive for the imitation of behavioral skills. There is a presupposition in all types of programs, which combine handicapped and nonhandicapped children, that interaction among members of the two groups will occur and that it will be the type of interaction which facilitates the modelling of appropriate behaviors. That is, it is assumed that interaction will be constructive rather than aggressive or destructive. Unfortunately, there is little empirical data to either support or refute the assumption that physical integration insures real social integration.

More importantly, there has been little attention paid to the identification of the social and physical settings which affect the quality and quantity of interaction among handicapped and nonhandicapped children. Setting is of primary sociological significance in any question concerning the nature of intergroup relationships, particularly when one group is stigmatized or in a position of actual or potential social handicap and the other is not. That both social and physical setting can influence behavioral conduct has been amply noted by sociologists (cf., Goffman, 1959, 1963, 1964; Dreissen and Pyfer, 1975) as well as by psychiatrists such as Coles (1967). There have not, however, been many sociological studies of very young children (but see Moreland, 1962). Such studies will be limited in size and will be primarily observational if they are to rely upon information collected from the children themselves, because of the lack of verbal and writing ability of these children, and the lack of rigorous controls in determining the comparability of the environments in which they will be studied.

Research evidence on social relations among handicapped and nonhandicapped children is often contradictory. This is in great part, due to the lack of comparability of: research setting; research design; research instruments; age; sex; type and degree of handicaps of the children involved; visibility of handicap; ratio of handicapped to nonhandicapped children; kind and number of activities into which the children were integrated; and length of integration.

In spite of the lack of comparability of the relevant studies, some evidence seems to exist that school aged handicapped children tend to be less well accepted than are their nonhandicapped peers (Centers and Centers, 1963; Clark, 1964; Cooke, Apolloni and Cooke, 1977; Force, 1956; Johnson, 1950; Lapp, 1957; Richardson, Ronald and Kleck, 1974; and research reviews by Gardner, 1966 and Levitt and Cohen, 1976). Some researchers (e.g., Jones and Sisk, 1967; and Kennedy and Bruininks, 1974) indicate that acceptance of handicaps may be related to age, younger children being more accepting than older ones.

Studies of integrated or mainstreamed preschools are relatively rare. However, even in preschool classes, the evidence, in the few studies which exist is contradictory. Devaney, Guralnick, and Rubin (1974) found that introducing nonhandicapped children into a preschool play setting had no effect on the quality of play evidenced by handicapped children, until the teacher structured the situation to encourage interaction. When adult structuring of peer interaction occurred, associative and cooperative play increased for all of the handicapped children. The findings of Fredericks, et. al. (1978) were consistent with those of Devaney, Guralnick and Rubin. In their baseline condition, when moderately to severely handicapped preschool children were in integrated classes with nonhandicapped children, the handicapped spent the largest proportion of their time in unoccupied or solitary play, as onlookers, or in adult-directed activities. The nonhandicapped, on the other hand, spent the greatest proportion of time in associative or parallel play. Interaction improved after experimental treatment, and

the improved behaviors brought about by the experimental condition generalized from one setting to another. These and other studies indicate little spontaneous interaction among handicapped and non-handicapped children without specific training of the children and/or structuring of the physical setting. However, Ispa and Matz (1978) in a naturalistic, observational study of a mainstreamed preschool program observed that handicapped and nonhandicapped children did not tend to self-segregate themselves nor did they isolate each other any more than would be statistically expected by chance. The findings of Ispa and Matz are somewhat similar to those of Peterson and Haralick (1977).

Peterson and Haralick (1977), in an analysis of a subset of the data reported here, tracked nonhandicapped children in an integrated free play situation and found that over half of the interactions of the nonhandicapped children were with their handicapped peers. However, the greatest proportion of interactions of the nonhandicapped children was with other nonhandicapped children.

The present paper attempts to identify some conditions of the social and physical setting which affected interaction among nonhandicapped and handicapped preschoolers in an ability integrated preschool. Some of the research questions raised here are:

1. Did the type of play in which the nonhandicapped children were engaged vary with the type of child(ren) present in the play area?
2. Did the type of play in which the nonhandicapped children were engaged vary with the type of child(ren) with whom they were actually playing?

3. How was interaction among nonhandicapped and handicapped children influenced by materials in the various play areas?

Method

Setting

The study was conducted in an experimental, integrated preschool classroom for handicapped children, located at the University of Kansas. The preschool was established in order to serve handicapped children. Nonhandicapped children were integrated into the class as models for the handicapped. Nonhandicapped children comprised approximately one third of the total enrollment. The handicapping conditions of the target population ranged from mild to severe and included mental retardation, orthopedic and neurological impairments, developmental delay, speech impairments, and sensory impairments. Both handicapped and nonhandicapped children were provided with individual educational programs.

Social interactions among handicapped and nonhandicapped children were observed during free play sessions in the preschool classroom. Free play occurred twice a day for half hour periods. The classroom contained six play areas, three of which were made available for play during the first play period in the day, while the remaining three areas were available during the second play period. Play areas included the preacademic table, the art or creative play table, manipulative floor play area, kitchen or playhouse area, physical education area and the free choice area. Free play schedules allowed all six play areas to be made available to the children over the two free play sessions each

day. Combinations of three play areas were systematically varied so that there were different combinations of areas each day. Specific toys and play equipment were designated for each play area. Teachers selected the toys or equipment for each play area for a particular day's activities. Major toys and equipment designated for each play area were:

1. Preacademic table. This could include academically or skill oriented materials, such as parquetry cubes, cards, pegboards, academic skill cards for matching, sorting and discriminating, shape sorters, lotto cards, puzzles, etc.
2. Art or creative play table. This could include artistic play materials such as various types of paints, crayons, play dough or clay, paper, pencils, scissors, paste, etc.
3. Manipulative floor play area. This could include toy trucks and cars, giant tinker toys, building blocks, miniature houses, stores, and occasionally plastic baby tubs filled with water, containers and floating toys.
4. Kitchen or playhouse area. This could include miniature stove, refrigerator, sink, cabinets, several dolls, doll beds, tea sets and pans, plastic fruits and vegetables, dress-up clothes, and sometimes plastic tubs with water.
5. Physical education area. This could include gross motor and indoor/outdoor play equipment such as a cloth tunnel, a wooden slide and ladder, rocking horse, rocking boat, climbing stairs, basketball game, bowling game, four foot diameter circular ring, etc.

6. Free choice area. This could include a variety of play items such as books, flannel board with story book figures and other items at which the child could look.
7. Miscellaneous. This code was set up to include activities which occurred between areas, e.g., walking, conversing, etc.

Subjects

All children who participated in the two daily free play sessions were included in the study. This included five children who were enrolled as nonhandicapped models and eight handicapped children. Table 1 summarizes the sex and age characteristics of all of the children and describes the type and level of disability of those handicapped. The nonhandicapped children exhibited developmental growth levels within the normal range for children of their chronological age.

Insert Table 1 about here

Observation Instrument

A structured observation code was used to obtain data on social interactions among the handicapped and nonhandicapped children in the preschool. The code was developed and refined in a series of pilot studies, conducted in the experimental preschool over a period of several years. The data was recorded by thirty second time intervals for each subject being observed. Data recorded for each thirty second time interval included:

a. the play area in which the subject was engaged (e.g., manipulative floor play area, playhouse area, pre-academic tablework area, etc.)

b. a count of the handicapped and nonhandicapped children who were actually available within the play area in which the observed subject was engaged. This enabled a categorization of available playmates as handicapped only, a combination of handicapped and nonhandicapped or nonhandicapped only.

c. a designation of the type of play in which the observed child was engaged. This included isolate or independent play, cooperative play, or parallel play. Isolate play involved no interaction. The child engaged in neither direct nor parallel play with others and played only by himself. Cooperative play involved true interaction in which two or more children played in pursuit of a common goal, either sharing a single play object or applying their own toys to the purposes of group activity. Parallel play involved a child playing with his/her own toy beside or facing another child (within three feet and within the same play area). While parallel play involved no actual interaction, the children were in close enough proximity to allow for observation of eachother's play activities. Isolate play then precludes the type of observation or interaction which could lead to behavioral modelling, while parallel play and cooperative play maximize observational and/or interactional potential.

d. designation of the type of child or children with whom the subject was interacting. The categories included no interaction, interaction with nonhandicapped peer(s), interaction with handicapped peer(s), or interaction with a combination of both handicapped and nonhandicapped children. A count was taken of the number of children in each category with whom the subject interacted.

e. designation of "time-out" intervals. This included any event which temporarily removed the child from availability for play such as leaving the room for any reason, going to the lavatory, washing hands, getting a drink, any punishment or time-out procedure or any teacher intervention which rendered the child inaccessible for intervention with the children.

Date Collection Procedure

Social interaction and play data were collected by three trained observers during the two daily thrity minute free play sessions, for a period of four and a half weeks or eighteen days. Data were obtained by tracking all of the five nonhandicapped models. Each observer recorded data on two nonhandicapped models during each free play period. Tracking was of nonhandicapped rather than handicapped children for several reasons. One reason was the need to limit the number of observed children because time restraints imposed by the class schedule and the number of available observers. The second reason was that previous study results led the researchers to believe that the

willingness of the nonhandicapped children to engage in interaction with handicapped children was probably more salient than the willingness of the handicapped in determining whether or not interaction would take place and be maintained.

Data on each subject were collected during five minute blocks using the thirty second observation procedure. Each observer recorded data on his/her first subject for five minutes, switched to the second subject for five minutes, returned to the first subject for five minutes, and so forth. Daily data on each subject consisted of four five minute samples of play and social interaction behavior.

All five nonhandicapped children served as subjects, and because each observer recorded data on two subjects, two observers always took data on the same subject. This practice allowed daily reliability checks to be made. Observer bias in regard to individual subjects was minimized by establishing a five day rotation schedule, so that each observer recorded data on each subject an equal number of times during the observation period. The daily rotation schedule allowed daily reliability checks to be made both between observers in general and between observers for each child on whom data was collected. Mean reliability for data on individual subjects ranged from 88 percent agreement to 92 percent agreement. Overall mean observer reliability across subjects, during the entire study was 89 percent.

Several studies, including pilot studies conducted by the investigators, indicate that teacher behavior and reinforcement strongly affect children's interaction patterns. Because the present research

was designed to examine spontaneous play and social interactions among handicapped and nonhandicapped children, certain procedures were followed to minimize the effects of teacher interaction with children during the free play sessions. First, there were always three teachers present in the classroom during the play sessions. Two of the teachers were assigned to one of the three play areas--usually one in which children might need assistance or supervision. The third teacher served as a roving supervisor of the entire classroom. Second, rates of teacher/child interactions or reinforcement were standardized so that teachers interacted with children at a rate of three to five times per five minutes or approximately once every 1 1/2 minutes. Teachers were instructed to allow children to engage in spontaneous free play and to avoid manipulating or controlling a child's play activities. Teachers were only to reinforce good play behavior, help an unoccupied child to choose an activity, and intervene only if a child needed immediate help. Teachers were specifically instructed to allow children a free choice of play area and of playmate. Interactions were to be brief and to be dispersed across all children. Teachers wore wrist counters, in order to monitor their own interaction rates for each free play session.

This was, then, a naturalistic study of an integrated preschool class (as called for by, for example, Wynne, Ulfelder, Dakof, 1975). No experimental manipulations occurred which would enhance the interaction rate among nonhandicapped and handicapped children. There were 2,306 observations of play behavior and social interaction collected over the four and one half week period.

Results

Type of Play and Type of Child Present in Play Area

The greatest proportion of the 2,306 observations (42.7 percent) consisted of nonhandicapped children engaged in isolate play. 38.3 percent of the observations were of parallel play. 19.0 percent of the observations were of cooperative play. These findings differ substantially from those of Fredericks, et al. (1978) who found, in the baseline condition of their study, that nonhandicapped children spent more time at associative or parallel play, while handicapped children spent more time in unoccupied or solitary play, or as onlookers, or in adult directed activities. Given the large amount of isolate play shown by the nonhandicapped subjects, the question may be asked whether when isolate play was occurring, handicapped children were more apt to be the only others present in the same play area than were either combinations of handicapped and nonhandicapped children or only nonhandicapped children. Table 2 shows the relationship between type of play in which the nonhandicapped subjects were engaging and the type of children available in their play area. Whether observations were of isolate, parallel or cooperative play, combinations of handicapped and nonhandicapped children were most likely to be present in the play area. Goodman and Kruskal's Tau for this relationship between type of play and type of child present is only .0348. One cannot predict, from knowledge of the type of play which occurred, what types of children were present in the playing area. The converse of this relationship also holds: given knowledge of the type of child present in a play area, one cannot predict

the type of play which occurred. Goodman and Kruskal's Tau for the latter prediction was .0375. However, when isolate play was observed, handicapped children were the only other children in the play area more than twice as often as nonhandicapped children. During cooperative play observations, combinations of children were about four times more likely to be present than were handicapped children alone. Other nonhandicapped children were about two and a half times more likely to be the only children present during cooperative play observations than were handicapped children alone. Both cooperative and parallel play of the nonhandicapped subjects tended to include other nonhandicapped children more frequently than it included handicapped children.

Insert Table 2 about here

Type of Play and Type of Actual Playmate

Table 2 examined the relationship of type of play to type of child present in a play area. Table 3 examines the relationship of type of nonisolate play to type of playmate actually selected in a free choice situation. In this situation, all three types of playmates were available in the play area, thus nonhandicapped only, handicapped only, or a combination of handicapped and nonhandicapped could be chosen as actual playmates. There was a distinct tendency for nonhandicapped to be the only children present during cooperative play. Combinations of children were the most frequently observed playmates during parallel play. Where there was a choice, as there was in the combined condition, the subjects tended to choose other nonhandicapped children for cooperative play.

Insert Table 3 about here

In Table 4, information from Tables 2 and 3 is combined to further examine the relationship between type of nonisolate play and type of playmate chosen. This table combines information on the play behavior of nonhandicapped children when there was only one type of child in a play area, with similar information under conditions when both handicapped and other nonhandicapped children were present, and a choice of playmate type existed. In both the parallel and cooperative play observations,

---

Insert Table 4 about here

---

nonhandicapped children were most likely to be playing with other nonhandicapped children and least likely to be playing with combinations of handicapped and nonhandicapped. Handicapped children were playmates with nonhandicapped children in almost one third of the parallel play and almost one fourth of the cooperative play observations--a not unimpressive fact. Again, one cannot predict type of playmate present by knowing the type of play occurring. Goodman and Kruskal's Tau is .0167. The converse relationship also holds, knowledge of actual playmate being of little help in the prediction of type of play occurring and Tau for that prediction being .0294.

Play Area and Type of Play

Table five examines each play area and shows the frequency of various types of play observed within it. With two exceptions, isolate play was the category of play most often observed in each play area. These two exceptions were: 1) the manipulative floor play area

observations in which all types of play occurred in approximately equal proportions, cooperative play being observed somewhat more frequently than the other types; and 2) the art area observations in which parallel play tied with isolate play in frequency. Tablework and art work areas produced the lowest proportions of cooperative play observations. Examining the same data by looking at all 439 cooperative play observations, about 45 percent occurred in the manipulative floor play area. Parallel and isolate play observations were fairly evenly dispersed across play areas.

Insert Table 5 about here

Play Area and Type of Child

All play areas attracted both handicapped and nonhandicapped children. Table six summarizes data on proportions of handicapped, nonhandicapped, and combinations of children present within each play area.

Insert Table 6 about here

Within the free choice play area, observations were evenly divided among handicapped as the only other children present in the play area, combinations of children present and other nonhandicapped as the only children present. Within both the manipulative floor play and physical education areas, combinations of children were not frequently observed, while observations of handicapped children as the only potential playmates and observations of nonhandicapped children as the only potential playmates, comprised approximately equal proportions. It should be noted, in examining Table 6, that handicapped children

were present either alone or in combination with nonhandicapped children in 76 percent of the tablework observations. Nonhandicapped children were present, either alone or in combinations with handicapped children in 57 percent of these observations. (The percentages add to more than one hundred, because the "combination" category has been added to both the "handicapped only" and "nonhandicapped only" categories.) Similarly, handicapped children were included in 89.6 percent of the observations in the art area, while nonhandicapped children were included in 70.6 percent of these observations. Observations of miscellaneous activities (walking back and forth between play areas, etc.) were mainly of handicapped children. At least 62 percent of the observations in each play area included some handicapped children.

The tablework and art areas had teachers stationed at or near them in order to give help and supervision to those who needed it. In the light of findings that handicapped children tend to spend more time in interaction with adults or in adult directed activities (cf. Fredericks, et al., 1978; Novy, 1976; Haralick and Peterson, 1978), it is not surprising that large proportions of handicapped children were found in areas most closely supervised by adults.

Type of Play Area, Type of Play and Type of Child Available

Table 7 examines the types of potential playmates available within each play area when specific categories of play were observed. Within most play areas, when isolate play was observed, handicapped children were much more likely than nonhandicapped children to be the only

playmates available to the subjects. The only play area which was an exception to this was the manipulative floor play area, in which handicapped and nonhandicapped children were almost equally likely to be the only others in the area during isolate play observations. In all play areas except for the kitchen area, cooperative play was much more likely to take place when nonhandicapped children were the only others in the play area than when handicapped children were the only ones available. In the kitchen area, the trend favoring nonhandicapped children persisted but was of lesser magnitude than in the other areas. Observations of parallel play showed much less of a tendency to favor the nonhandicapped than did the cooperative and isolate play observations. In all play areas, parallel play observations tended to occur mainly in the presence of combinations of handicapped and other nonhandicapped children.

Insert Table 7 about here

Play Area, Type of Nonisolate Play and Playmate Actually Chosen, When All Types of Playmates Were Available

The data described above show the types of children present in each play area when various categories of play were observed. The data do not show the kinds of children who were actually being engaged in nonisolate play within each play area. When nonisolate play actually occurred, were handicapped children played with more frequently in some areas than in others? Table 8 shows the type of nonisolate play within each play area when all types of playmates were available

(combined condition) and when specific types of playmate were chosen (as opposed to merely being available).

Insert Table 8 about here

In every play area except for "miscellaneous," when all categories of children were available, handicapped children were included in more than half of the observations of nonisolate play. The tablework area, the physical education area and the manipulative floor play areas had the highest proportion of observations in which handicapped children (either by themselves or with nonhandicapped) were included in play. The highest proportion of cooperative play with the handicapped, when nonisolate play is examined, also occurred in those areas. In the physical education area, cooperative play observations included only handicapped children more than any other category of playmate. Art work produced no cooperative play with the handicapped.

Summary

One of the major rationales given for integrating handicapped and nonhandicapped children in educational settings is to increase the probability that the handicapped children will acquire culturally appropriate behavior by modelling the behavior of the nonhandicapped. Another rationale is to increase intergroup understanding, thus reducing stigmatization of the handicapped by nonhandicapped. Neither of the goals can be achieved without some degree of positive social

interaction among members of the two groups. The present research was an attempt to identify some conditions of the social and physical setting which maximized interaction among handicapped and nonhandicapped children in an integrated preschool. Play and social behaviors were tracked for the five nonhandicapped models in an integrated preschool. These behaviors were observed during two daily half hour free play sessions. The behaviors included isolate play and interactive play with other nonhandicapped models and with eight handicapped peers. Six play areas were involved. Two thousand, three hundred and six observations were collected over a four and one half week period.

The first research question concerned the type of child who was present in the play area when the nonhandicapped children were engaged in various types of play. Overall, examination of the data shows that knowing the type of play in which the subject was engaged does not enable a statistical prediction of whether the others in the play area were handicapped, nonhandicapped or a combination of both. Regardless of whether the nonhandicapped subject under observation was engaged in isolate, parallel or cooperative play, the other children in the play area were most likely to be combinations of handicapped and other nonhandicapped children, rather than handicapped only or nonhandicapped only. This fact lends considerable support to the allegation that young children do not discriminate against the handicapped. However, when isolate play was observed, handicapped children were much more likely than nonhandicapped children to be the only others present in the play area. Nonhandicapped children were much more likely than handicapped children to be the only others present during cooperative play.

The second research question concerned the type of child with whom the nonhandicapped children actually played when they were engaged in various types of play. When all combinations of children were available as playmates and the subjects had a free choice of playmate, they tended to exclude handicapped children from their cooperative play and to include them in their parallel play. Given the nature of the handicaps, this is understandable. Cooperative play requires social and empathic skills which the retarded children in the class often did not possess.

When data on actual playmates in the free choice situation is combined with data on actual playmates when only one type of child is available, the subjects were most likely to be playing with other nonhandicapped children and least likely to be playing with a combination of handicapped and nonhandicapped. However, type of playmate could not be statistically predicted from knowledge of the type of play engaged in by the subject.

The third research question asked about the effect of play materials on the type of play. Isolate play was the most commonly observed play category in all areas except the manipulative floor play area and the art area. The manipulative floor play area contained the largest proportion of the cooperative play observations. Handicapped children were attracted in rather high proportions to the tablework and art areas, areas where teachers were most likely to be present. Children observed playing between areas also tended to be handicapped. Within each play area, parallel play observations tended to occur in the presence

of both handicapped and nonhandicapped children. In every play area, when all categories of children were available, handicapped children were included in more than half of the nonisolate play observations. The tablework, physical education and manipulative floor play areas had the highest proportion of handicapped children included in play.

The finding that considerable interaction existed among nonhandicapped and handicapped preschoolers, although there was a preference for nonhandicapped children, somewhat supports the findings of Fredericks et al. (1978), Moreland (1962) and others who claim that young children do not actively exclude members of groups which may be stigmatized by older children and adults. Moreland studied relations among black and white preschoolers in integrated classes, during a time of stigmatization and segregation of blacks. He found considerable interaction among children of the two groups, even though there was a stated preference by both groups for white playmates. The racial integration analogy is valid in the respect that in both cases of integration, relations among stigmatized and nonstigmatized children are being encouraged and examined. There are, of course, many differences in the two situations.

The findings that social interaction between handicapped and nonhandicapped children was enhanced or diminished by certain play equipment give naturalistic study support to other research usually conducted in more rigorously experimental settings with primarily nonhandicapped children (cf. Shure, 1963; Quilitch and Risley, 1973; Hamad, Herbert-Jackson, and Risley, 1975).

There are still many questions to be explored. Generalizability of study results is being investigated through replication of the research. The optimal ratio of handicapped to nonhandicapped children in a play area is still unknown. These and other question such as influence on interaction of appearance, type of handicap, and social characteristic, are currently under investigation by the authors. The results of these studies will be reported in forthcoming papers.

REFERENCES

Centers, L. and R. Centers

1963 "Peer group attitudes toward the amputee child." Journal of Social Psychology 61, 127-132.

Clark, E. T.

1964 "Children's perception of educable mentally retarded children." American Journal of Mental Deficiency 68(5), 602-611.

Coles, R.

1967 Children of Crisis New York: Delta.

Cooke, T. P., T. Apolloni and S. A. Cooke

1977 "Normal and preschool children as behavioral models for retarded peers." Exceptional Children 43(8), 531-532.

Devoney, C., M. J. Guralnick and H. Rubin

1974 "Integrating handicapped and nonhandicapped preschool children: effects on social play." Childhood Education 50(6), 360-364.

Driessen, J. J. and J. N. Pyfer

1975 "An unconventional setting for a conventional occasion: a case study of an experimental adult education program." Sociology of Education 48(Winter), 111-125.

Farber, B.

1968 Mental Retardation: Its Social Context and Social Consequences. Boston Houghton Mifflin.

Force, D. G., Jr.

1956 "Social status of physically handicapped children." Exceptional Children 23(3), 104.

Fredericks, H. D., B. V. Baldwin, D. Grove, W. Moore, C. Riggs and B. Lyons

1978 "Integrating the moderately and severely handicapped preschool child into a normal day care setting." Pp. 191-206 in M. J. Guralnick (ed.), Early Intervention and the Integration of Handicapped and Nonhandicapped Children. Baltimore: University Park Press.

Gardner, W. I.

1966 "Social and emotional adjustment of mildly retarded children and adolescents: Critical review." Exceptional Children 33(2), 97-105.

Goffman, E.

1959 Presentation of Self in Everyday Life. Garden City, New York: Doubleday.

1963 Behavior in Public Places. New York: Free Press.

1964 Stigma: Notes on the Management of Spoiled Identity. Englewood Cliffs. New Jersey: Prentice-Hall.

Hamad, C., E. Herbert-Jackson, and T. Risley

1975 "The selection of toys as the basis for maximizing appropriate play behavior in children." Paper presented at American Psychological Association, Chicago.

Hartup, W. W.

1978 "Peer interaction and the process of socialization." Pp. 27-51 in M. J. Guralnick (ed.), Early Intervention and the Integration of Handicapped and Nonhandicapped Children. Baltimore: University Park.

Haralick, J. G. and N. L. Peterson

1978 "An ethological study of an integrated preschool: play behavior of handicapped and nonhandicapped children." Unpublished.

Ispa, J. and R. Matz

1978 "Integrating the moderately and severely handicapped preschool child within a cognitively oriented program." Pp. 167-190 in M. J. Guralnick (ed.), Early Intervention and the Integration of Handicapped and Nonhandicapped Children. Baltimore: University Park.

Johnson, G. O.

1950 "A study of the social position of mentally handicapped children in the regular grades." American Journal of Mental Deficiency 55, 60-89.

Jones, R. L. and D. A. Sisk

1967 "Early perceptions of orthopedic disability." Exceptional Children 34, 42-43.

Kennedy, P. and R. H. Bruininks

1974 "Social status of hearing impaired children in regular classrooms." Exceptional Children 40, 336-342.

Lapp, E. R.

1957 "A study of the social adjustment of slow learning children who were assigned part-time to regular classes." American Journal of Mental Deficiency 62(2), 254-262.

Levitt, E. and S. Cohen

1976 "Attitudes of children towards their handicapped peers." Childhood Education 52(3), 171-173.

Mercer, J.

1973 Labeling the Mentally Retarded, Berkley: University of California.

Moreland, J. K.

1962 "Racial acceptance and preference of nursery school children in a southern city." Pp. 5-16 in A. R. Brown (ed.) Prejudice in Children, Springfield, Illinois: Charles C. Thomas.

Novy, B. J.

1976 "Observed social interactions of handicapped and normal preschoolers during free play." Unpublished paper.

Peterson, N. L. and J. G. Haralick

1977 "Integration of handicapped and nonhandicapped preschoolers: an analysis of play behavior and social interaction." Education and Training of the Mentally Retarded 12(3), 235-245.

Quilitch, H. R. and T. Risley

1973 "The effects of play materials on social play." Journal of Applied Behavior Analysis 1973(6), 575-578.

Richardson, S. A., L. Ronald, and R. E. Kleck

1974 "The social status of handicapped and nonhandicapped boys in a camp setting." Journal of Special Education 8(2), 143-152.

Shure, M. B.

1963 "Psychological ecology of a nursery school." Child Development 34, 979-992.

Wynne, S., L. S. Ulfelder, and G. Dakof

1975 Mainstreaming and Early Childhood Education for Handicapped Children: Review and Implications of Research. Washington: Bureau of Education for the Handicapped.

Table 1

Descriptions of Nonhandicapped and Handicapped Subjects Participating in the Free Play Activity

Nonhandicapped Models		Handicapped Children			
Sex	Age	Sex	Disability	Level	Age
1. Female	4	1. Female	MR - Downs	Moderate	6
2. Female	4	2. Female	MR and OH	Severe	8
3. Female	3	3. Female	Delayed & SI	Mild	4
4. Male	4	4. Female	Delayed & SI	Mild	4
5. Male	3	5. Male	MR	Moderate	5
		6. Male	MR	Moderate	5
		7. Male	MR	Moderate	4
		8. Male	MR - Downs	Moderate	5

Table 2

Type of Playmate Available, Given Specific Forms of Play

Type of Play	Type of Available Playmate: Handicapped Only N (%)	Combination N (%)	Nonhandicapped N (%)	Total N (%)
Isolate	393 (39.94)	418 (42.48)	173 (17.58)	984 (100)
Parallel	182 (20.61)	526 (59.57)	175 (19.82)	883 (100)
Cooperative	59 (13.44)	235 (53.53)	145 (33.03)	439 (100)
Total	634 (27.49)	1179 (51.13)	493 (21.38)	2306 (100)

Goodman and Kruskal's Tau = .0348

Table 3

Type of Playmate, Given Type of Play Occurring under Combined Conditions (Free Choice of Playmate Type)

Type of Nonisolate Play	Type of Playmate							
	Handicapped Only		Combined		Normal Only		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Parallel	98	(18.63)	230	(43.73)	198	(37.64)	526	(100)
Cooperative	50	(21.28)	67	(28.51)	118	(50.21)	235	(100)
Total	148	(19.45)	297	(39.03)	316	(41.52)	761	(100)

Table 4

Type of Playmate Present, Given Type of Nonisolate Play Occurring (Combined Information from Tables 2 and 3)

Type of Play	Type of Playmate Present: Handicapped N (%)	Combination N (%)	Normal N (%)	Total N (%)
Parallel	280 (31.71)	230 (26.05)	373 (42.24)	883 (100)
Cooperative	109 (24.83)	67 (15.26)	263 (59.91)	439 (100)
Total	389 (29.42)	297 (22.47)	636 (48.11)	1322 (100)

T = .0167 reduction in predicting playmate type in error by knowing type of play occurring.

Table 5

Type of Play by Play Area

Play Area	Type of Play							
	Cooperative		Parallel		Isolate		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Tablework	26	(9.0)	130	(44.0)	140	(47.0)	296	(100)
Art	14	(4.0)	167	(48.0)	167	(48.0)	348	(100)
Floor Play	197	(34.7)	192	(33.8)	179	(31.5)	568	(100)
Kitchen	68	(17.0)	161	(40.1)	172	(42.9)	401	(100)
P.E.	57	(16.9)	118	(34.9)	163	(48.2)	338	(100)
Free Choice	67	(20.7)	111	(34.4)	145	(44.9)	323	(100)
Miscellaneous	10	(31.3)	4	(12.5)	18	(56.3)	32	(100)
Total	439	(19.0)	883	(38.3)	984	(42.7)	2306	(100)

Table 6

Type of Children Present in Each Play Area

Play Area	Type of Children Playing							
	Handicapped Only		Combination		Nonhandicapped only		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Tablework	127	(43.0)	98	(33.0)	71	(24.0)	296	(100)
Art	102	(29.3)	210	(60.4)	36	(10.3)	348	(100)
Floor Play	100	(17.6)	344	(60.6)	124	(21.8)	568	(100)
Kitchen	85	(21.2)	272	(67.8)	44	(11.0)	401	(100)
P.E.	93	(27.5)	155	(45.9)	90	(26.6)	338	(100)
Free Choice	108	(33.4)	99	(30.7)	116	(35.9)	323	(100)
Miscellaneous	19	(59.4)	1	(3.1)	12	(37.5)	32	(100)
Total	634	(27.5)	1179	(51.1)	493	(21.4)	2306	(100)

Table 7

Type of Potential Playmate Available Within Each Play Area When Specific Categories of Play Were Observed

Play Area and Category of Play	Type of Playmate: Handicapped N (%)	Combination N (%)	Nonhandicapped N (%)	Total N (%)
Tablework				
Isolate	75 (53.6)	41 (29.3)	24 (17.1)	140 (100)
Parallel	45 (34.6)	49 (37.7)	36 (27.7)	130 (100)
Cooperative	7 (26.9)	8 (30.8)	11 (42.3)	26 (100)
Total	27 (42.9)	98 (33.1)	71 (24.0)	296 (100)
Art				
Isolate	76 (45.5)	74 (44.3)	17 (10.2)	167 (100)
Parallel	25 (15.0)	124 (74.2)	18 (10.8)	167 (100)
Cooperative	1 (7.1)	12 (85.8)	1 (7.1)	14 (100)
Total	102 (29.3)	210 (60.3)	36 (10.4)	348 (100)
Floor Play				
Isolate	43 (24.0)	99 (55.3)	37 (20.7)	179 (100)
Parallel	36 (18.8)	116 (60.4)	40 (20.8)	192 (100)
Cooperative	21 (10.6)	129 (65.5)	47 (23.9)	197 (100)
Total	100 (17.6)	344 (60.6)	124 (38.0)	568 (100)

Table 7 (continued)

Play Area and Category of Play	Type of Playmate: Handicapped N (%)	Combination N (%)	Nonhandicapped N (%)	Total N (%)
Kitchen				
Isolate	64 (37.2)	90 (52.3)	18 (10.5)	172 (100)
Parallel	16 (9.9)	127 (78.9)	18 (11.2)	161 (100)
Cooperative	5 (7.4)	55 (80.9)	8 (11.7)	68 (100)
Total	85 (21.2)	272 (67.8)	44 (11.0)	401 (100)
P.E.				
Isolate	56 (34.4)	78 (47.8)	29 (17.81)	163 (100)
Parallel	25 (21.2)	57 (48.3)	36 (30.5)	118 (100)
Cooperative	12 (21.1)	20 (35.1)	25 (43.8)	57 (100)
Total	93 (27.5)	155 (45.9)	90 (26.6)	338 (100)
Free Choice				
Isolate	66 (45.5)	35 (24.1)	44 (30.4)	145 (100)
Parallel	33 (29.7)	53 (47.8)	25 (22.5)	111 (100)
Cooperative	9 (13.4)	11 (16.4)	47 (70.2)	67 (100)
Total	108 (33.4)	99 (30.7)	116 (35.9)	323 (100)

Table 7 (continued)

Play Area and Category of Play	Type of Playmate: Handicapped N (%)	Combination N (%)	Nonhandicapped N (%)	Total N (%)
Miscellaneous				
Isolate	13 (72.2)	1 (5.6)	4 (22.2)	18 (100)
Parallel	2 (50.0)	0 (0.0)	2 (50.0)	4 (100)
Cooperating	4 (40.0)	0 (0.0)	6 (60.0)	10 (100)
Total	19 (59.4)	1 (3.1)	12 (37.5)	32 (100)

Table 8

Type of Nonisolate Play and Type of Playmate Selected Within Each Play Area

Play Area and Type of Play	Type of Playmate Selected: Handicapped Only N (%)	Combination N (%)	Nonhandicapped Only N (%)	Total N (%)
Tablework				
Parallel	17 (34.7)	14 (28.6)	18 (36.7)	49 (100)
Cooperative	2 (25.0)	4 (50.0)	2 (25.0)	8 (100)
Total	19 (33.4)	18 (31.5)	20 (35.1)	57 (100)
Art				
Parallel	35 (28.2)	41 (33.1)	48 (38.7)	124 (100)
Cooperative	0 (0.0)	0 (0.0)	12 (100.0)	12 (100)
Total	35 (25.7)	41 (30.1)	60 (44.1)	136 (100)
Floor Play				
Parallel	23 (19.8)	54 (46.6)	39 (33.6)	116 (100)
Cooperative	21 (16.3)	51 (39.5)	57 (44.2)	129 (100)
Total	44 (17.9)	105 (42.9)	96 (39.2)	245 (100)

Table 8 (continued)

Play Area and Type of Play	Type of Playmate Selected: Handicapped Only N	(%)	Combination N	(%)	Nonhandicapped Only N	(%)	Total N	(%)
Kitchen								
Parallel	13	(10.2)	57	(44.9)	57	(44.9)	127	(100)
Cooperative	11	(20.0)	10	(18.2)	34	(61.8)	55	(100)
Total	24	(13.2)	67	(36.8)	91	(50.0)	182	(100)
P.E.								
Parallel	6	(10.5)	32	(56.1)	19	(33.4)	57	(100)
Cooperative	12	(60.0)	2	(10.0)	6	(30.0)	20	(100)
Total	18	(23.4)	34	(44.2)	25	(32.4)	77	(100)
Free Choice								
Parallel	4	(7.5)	32	(60.4)	17	(32.1)	53	(100)
Cooperative	2	(18.2)	0	(0.0)	9	(81.8)	11	(100)
Total	6	(9.4)	32	(50.0)	26	(40.6)	64	(100)
Miscellaneous								
Parallel	0		0		0		0	(100)
Cooperative	0		0		0		0	
Total	0		0		0		0	